

**Listing of the Claims:**

1. (Currently amended) A cooling method of a metal part by immersing the heated metal part in a cooling liquid, the method comprising:

~~breaking a vapor film which is formed when the cooling liquid vaporizes on a surface of the metal part,~~

~~wherein the step of breaking the vapor film occurs by applying a repeatedly varying pressure to the a vapor film formed when the cooling liquid vaporizes on a surface of the heated metal part, the pressure being repeatedly varied, by the step of one of 1) applying oscillations to the cooling liquid with an oscillation device horizontally and reciprocally moving in the cooling liquid and a stirrer separately arranged in the cooling liquid, 2) changing a pressure to be applied to a liquid surface level of the cooling liquid by introducing a gas above the liquid surface level via a gas introduction pipe, and 3) combining of applying the oscillations to the cooling liquid with the oscillation device horizontally and reciprocally moving in the cooling liquid and changing the pressure to be applied to the liquid surface level of the cooling liquid by introducing the gas above the liquid surface level via the gas introduction pipe;,,~~

wherein repeatedly varying the pressure repeatedly expands and contracts the vapor film causing a fluctuation in the vapor film;

breaking the vapor film at an initiation point where a thickness of the vapor film has decreased due to the fluctuation; and

stirring the cooling liquid with the a stirrer,

wherein the stirring is performed only after the vapor film begins to break.

2-4. (Canceled)

5. (Previously presented) The cooling method of the metal part according to claim 1, wherein the step of applying oscillations to the cooling liquid includes the step of using multiple oscillation devices.

6. (Currently amended) The cooling method of the metal part according to claim 1, further includinges the step of adjusting at least one of an amplitude and frequency of the oscillations according to the thickness of the vapor film.

7. (Currently amended) The cooling method of the metal part according to claim 1, further including the step of adjusting at least one of an amplitude and frequency of the oscillations according to the\_a condition of the cooling liquid.

8. (Cancelled)

9. (Currently amended) The cooling method of the metal part according to claim [[8]] 1, further comprising the step of adjusting at least either of the intensity of the stirring and the direction of a flow generated in the cooling liquid by the stirring according to the\_a condition of the cooling liquid and the\_a condition of the metal part in the cooling liquid.

10. (Currently amended) A method of manufacturing a metal part, the method comprising:

heating the metal part;  
cooling the metal part after the heating by immersing the metal part in a cooling liquid, wherein the cooling includes applying a repeatedly varying pressure to breaking a vapor film which is formed when the cooling liquid vaporizes on a surface of the metal part by applying a pressure to the vapor film, the pressure being repeatedly varied by the step of one of 1) applying horizontal oscillations to the cooling liquid by reciprocally moving an oscillating device in a horizontal direction, 2) repeatedly changing a pressure to be applied to a liquid surface level of the cooling liquid by introducing gas above the liquid surface level, and 3) a combination of applying the horizontal oscillations to the cooling liquid by reciprocally moving an oscillating device in a horizontal direction and changing the pressure to be applied to the liquid surface level of the cooling liquid by introducing gas above the liquid surface level,

wherein repeatedly varying the pressure repeatedly expands and contracts the vapor film causing a fluctuation in the vapor film;

breaking the vapor film at an initiation point where a thickness of the vapor film has decreased due to the fluctuation; and

stirring the cooling liquid with a stirrer,

wherein the stirring is performed only after the vapor film begins to break.

11-13. (Cancelled)

14. (Currently amended) The manufacturing method of claim 10, wherein the step of changing a pressure to be applied to ~~a~~the liquid surface level of the cooling liquid includes the step of introducing a gas directly into the cooling liquid.

15. (Previously presented) The manufacturing method of claim 14 further comprising exhausting the gas from the cooling liquid.

16. (Cancelled)

17. (New) The cooling method of the metal part according to claim 1, wherein the pressure applied to the vapor film is continuously varied in applying the oscillations to the cooling liquid.

18. (New) The cooling method of the metal part according to claim 1, wherein the pressure applied to the vapor film is intermittently varied in applying the oscillations to the cooling liquid.